

## ABSTRACT OF THE DISCLOSURE

Isolated graphitic polyhedral crystal and methods for their isolation are provided wherein the crystals have graphite sheets arranged in a plurality of layers to form an elongated structure having a long axis and a diameter and having 7 or more external facets running substantially the length of the long axis, and take a variety of forms, such as needles, giant nanotubes, nanorods, whiskers, rings, cones, double tipped pyramids and others, as well as their use in a variety of nanoscale devices and endproducts.

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